



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/677,880

10/02/2003

Ulrich Muller

0329-0009.01

9686

26568

7590

07/02/2008

COOK, ALEX, MCFARRON, MANZO, CUMMINGS & MEHLER LTD
SUITE 2850
200 WEST ADAMS STREET
CHICAGO, IL 60606

EXAMINER

CARTER, AARON W

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

07/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

1 RECORD OF ORAL HEARING

2
3 UNITED STATES PATENT AND TRADEMARK OFFICE

4
5
6 BEFORE THE BOARD OF PATENT APPEALS
7 AND INTERFERENCES

8
9
10 Ex parte ULRICH MULLER, GUSTAV PEUKER, DETLEF
11 SONNENSCHNEIDER, DETLEF WINTER, MICHAEL DEGNER,
12 and GERD THIEMANN

13
14
15 Appeal 2008-1139
16 Application 10/677,880
17 Technology Center 2600

18
19
20 Oral Hearing Held: April 15, 2008

21
22
23
24 Before KENNETH W. HAIRSTON, ROBERT E. NAPPI, and KARL D.
25 EASTHOM, Administrative Patent Judges

26
27 ON BEHALF OF THE APPELLANTS:

28
29 ANDREW KOLOMAYETS, ESQUIRE
30 COOK, ALEX, MCFARRON, MANZO,
31 CUMMINGS & MEHLER LTD
32 SUITE 2850
33 200 WEST ADAMS STREET
34 CHICAGO IL 60606

35
36 The above-entitled matter came on for hearing on Tuesday, April 15,
37 2008, commencing at 9:00 a.m., at The U.S. Patent and Trademark Office,

1 600 Dulany Street, Alexandria, Virginia before Virginia Johnson, Notary
2 Public.

3 MS. BOBO-ALLEN: Calendar Number 39, Appeal Number 2008-
4 1139, Mr. Kolomayets.

5 JUDGE HAIRSTON: Thank you. Can I get you to spell your name
6 for the record?

7 MR. KOLOMAYETS: Sure. That's K O L O M A Y E T S.

8 JUDGE HAIRSTON: Thank you and you may begin anytime you're
9 ready.

10 MR. KOLOMAYETS: Thank you. Honorable members of the
11 Board, my name is Andrew Kolomayets and I'm here on behalf of the
12 Applicant, Applicants Ulrich Muller and others, in Serial Number
13 10/677,880. The present invention that we've described in this application is
14 in the field of metal rolling mill technology. And, the claims of the
15 application are directed to a method for continuously measuring the flatness
16 of a hot moving, of a moving hot metal strip and of a method for
17 continuously measuring the flatness of an end face of a coil when that metal
18 strip has been rolled up.

19 In each method a shadow in the form of a line pattern is projected
20 onto the surface of either the hot metal strip or of the end face of the coil.
21 The line pattern formed on the hot metal surface or on the end face is then
22 viewed by a camera and as set forth in the Dependent Claims, the line
23 pattern, that line pattern is then compared continuously to a reference pattern
24 that is stored in a computer. With that information, that comparison of the
25 detected line pattern to the reference pattern, it is then possible to

1 automatically control the finishing train and make the necessary adjustments
2 to the, the coil, the coiled metal strip.

3 In each case, whether it's the end face of the coil or the hot metal strip
4 coming out of the roll stand, the measurement is contactless, meaning there's
5 no physical contact with the metal strip per se. In the final Office Action,
6 the Office rejected all of the claims under 35 U.S.C. § 103 based on two
7 references: U.S. Patent Number 5367578 to Harding and the 1983 article to
8 Pirlet.

9 As with all obviousness inquiries, we begin with the scope and the
10 content of the prior art, so I'll spend a little time just summarizing what
11 Pirlet and Harding disclose.

12 Again in the case -- in this case the, the primary piece of prior art here
13 is the article by Pirlet which describes a contactless system, non-contact
14 system of measuring flatness of a hot metal strip by projecting a series of
15 laser points onto the surface of that hot metal strip, and then detecting the
16 flatness of the surface thereby using a camera.

17 As in our application in our method the metal strip in Pirlet is moving
18 and it is hot as it exits the roll stand. Again, what it does not show is the
19 projection of a grid or a series of lines onto the surface of the metal strip as
20 mentioned, it uses the known laser technology to illuminate the hot metal
21 strip and measure it accordingly.

22 Now, the patent in Harding, the second piece of prior art referenced
23 by the Office, discloses a method for detecting defects in panels such as
24 automobile panels by projecting a line pattern onto the panel, panel and then
25 viewing the reflected image off of that subject, of that work piece of the
26 panel by an external camera. The panels or the pieces being viewed and,

1 and, and measured in Harding are not necessarily flat. They may be
2 contoured, curved as panels in an automobile often are. Also, the defects
3 that are being looked at by Harding are not limited to and, and in most cases
4 not directed to measuring the flatness of the panel, but rather the defects that
5 Harding is looking at are things such as dents and scratches and the metal
6 finish and things such as dirt dimples on the panel. It's a quality control as
7 we understand it. It's a quality control method looking for, for the most part
8 different types of defects in a panel that, again, may not necessarily be flat.

9 In addition, Harding requires that the panel that's being viewed be
10 stationary. It, it --

11 JUDGE HAIRSTON: But, this is part of the automobile assembly
12 line probably, isn't it? I mean, it doesn't say it has to be stationary.

13 MR. KOLOMAYETS: Well, I think as I talk about --

14 JUDGE HAIRSTON: Assembly lines move, right.

15 MR. KOLOMAYETS: Assembly lines move, but I think what
16 Harding is -- in Harding because he is taking pictures and, and he says this
17 in a couple of spots where he is required to take pictures of the same area
18 from different locations. He is, in effect, talk -- I think I don't believe this is
19 being used in, in an assembly line environment. I think this is a stationary
20 piece that's being viewed from a variety of points which are then being
21 compared.

22 So, again, we're talking about a finished panel here and not the raw
23 metal that's being formed in, in our process. It's the position of the Office
24 that it would have been obvious to take this system of Harding and use it in
25 the Pirlet moving strip environment.

26 JUDGE HAIRSTON: Well, Harding is the primary reference, right.

1 MR. KOLOMAYETS: Well, Harding -- I, I, I guess it -- Harding
2 may be the primary reference in that it discloses the, it discloses a grid and,
3 and a means for projecting something onto a surface. I think what the
4 Examiner was saying in the final Action was, you can take that system,
5 Pirlet discloses a, a moving strip, hot metal strip, flatness measuring system
6 much like what, what we, what we are doing, but without the detection and
7 the measuring apparatus. And, I think what the Examiner is saying is take
8 the apparatus and the system of Harding and you can use it in the system of
9 Pirlet. Whether that makes Harding the primary reference, then, then that,
10 then that's the way it is.

11 But regardless, the combination of Harding and Pirlet is, is something
12 that we, we take issue with. It's our position that one of ordinary skill would
13 not have been motivated to combine Harding with Pirlet because of the
14 differences between the prior art and the claims that are pending in this
15 application.

16 More specifically, it's our position that one would have had no reason.
17 One of ordinary skill would have had no reason to look to the Harding
18 system or think that it would be compatible with the system in Pirlet. Now,
19 before, before getting into the guts of the argument, this Appeal and the
20 Brief were all filed before the Supreme Court's decision in KSR. So, we
21 approach today's hearing cognizant of the fact that the landscape may have
22 changed a little bit here.

23 JUDGE HAIRSTON: Yes.

24 MR. KOLOMAYETS: That the, the teaching suggestion motivation
25 test to considering obviousness is not to be rigidly applied. It's not to be
26 considered a rigid formula, and we also understand that people of ordinary

1 skill, persons of ordinary skill are allowed to employ common sense and
2 look maybe outside the specific field in which --

3 JUDGE HAIRSTON: So, what in KSR supports your position?

4 MR. KOLOMAYETS: Pardon me.

5 JUDGE HAIRSTON: What in KSR supports your position?

6 MR. KOLOMAYETS: Well, I think what supports our -- what, what
7 in KSR supports our position is that it did not entirely do away with the
8 requirement that there still must be some reason in the prior art for
9 combining the two pieces.

10 JUDGE HAIRSTON: Um-hum.

11 MR. KOLOMAYETS: And, that's really the heart of our argument
12 here, is that one of ordinary skill would not have thought that Harding would
13 be viewing Harding and would have thought Harding would be applicable to
14 a system like Pirlet or to a system like ours, and there are three -- basically
15 three reasons why we think that's the case.

16 First of all, it's just the, the nature of the, of the Harding method and
17 system itself. Again, Harding is not describing a system where he is worried
18 only about the flatness of a metal strip. He's looking at, in many instances, a
19 contoured or a shaped piece of metal. He's not really dealing with metal
20 strips per se at all. Again, he's working with these formed panels that are
21 often used in the automobile industry; make up parts of the car.

22 JUDGE EASTHOM: I don't understand why that isn't applicable to
23 a, you know, a flat piece of metal. He's actually doing more than just, you
24 know, I was looking at Column, the last Column before the claims, and he
25 says, some isolated defects are actually a single change in panel height
26 almost like a subtle buckle in the material. Why wouldn't that apply to, for

1 example, a piece of metal that you're trying to determine the flatness if it
2 was bent, for example.

3 MR. KOLOMAYETS: Well, it's, it's -- I, I can't say that he doesn't
4 -- he's not totally uninterested in if it's intended to be a flat part of the panel
5 then yes, he's looking for deviations from that flatness, but he is -- I don't
6 know, if you think about a car panel itself, I don't believe that it's -- you find
7 too many pieces that are pristinely flat and are supposed to be flat. They
8 usually have some, some contour to it. And, it's unlike; I would argue, a
9 truly flat metal strip, a thin metal strip --

10 JUDGE EASTHOM: What about your coil? That's, that's not
11 measuring flatness, is it, your coil?

12 MR. KOLOMAYETS: It's measuring, that is measuring flatness
13 from a different perspective. At that point once we have coiled the, the, the
14 sheet, we're not longer looking at the flatness of the sheet, but what we are
15 looking at is the end face of the coil to make sure that that strip has rolled on
16 correctly. So, at that point, we're shining. We're, we're, we're shining our
17 image onto the end face of the panel to make sure that we don't have strips
18 that have coiled incorrectly. So, that's, that's a difference.

19 So, Harding is, is I think he's not really dealing with flat metal strips
20 of the type that we are here. And, again he's looking at more than simply
21 dents and, and, and buckles, he's looking at scratches. He's looking at
22 things like dirt dimples. He's really looking at the finish, I would argue, of
23 that panel. So, our first point is that Harding is really not in the same field as
24 we are. He's not looking at the same thing. And, he is not necessarily
25 concerned with the same things that we are.

1 Secondly, another reason why we believe that Harding would not be
2 suitably combinable with Pirlet, is that Harding is -- our understanding is
3 Harding is dealing with a static system. In Harding, he is measuring an
4 object that is fixed and is stationary, and is not moving, and is certainly not
5 moving at the speed that our hot metal strip is moving. That brings us --

6 JUDGE HAIRSTON: The speed that -- the speed is not in your
7 claims.

8 MR. KOLOMAYETS: Speed is not in the claims.

9 JUDGE HAIRSTON: That's a relative term. Moving is a relative
10 term.

11 MR. KOLOMAYETS: Right. I'll concede that speed is not in our, is
12 not in our claims.

13 JUDGE NAPPI: Does Harding specifically say that it's stationary, or
14 are we just interpreting that because he never says --

15 MR. KOLOMAYETS: If he says it -- bear with me for one minute,
16 see if I highlighted it. Harding -- I don't know that Harding comes out and
17 says it, but I think it's implied in the, in the description of the Harding
18 method where he says, for example, at Column 4, several pictures with
19 locations physically -- pardon me, Column 4 beginning at Line 49. I'll say
20 Line 48. In order to determine what area on Panel 16 one is looking at,
21 several pictures with locations physically noted by an artifact can be used to
22 construct an overlay to analyze the photos. He says in Column 6, Line,
23 beginning at about Line 8, various perspectives of the panel are needed. He
24 is not working in a system in a real time system where something is moving;
25 it's being -- the grid is being reflected off the surface of Harding. That
26 information is then being conveyed to, to a computer processor that's got

1 some reference information on it, and then changes accordingly are made to
2 a finishing train as, as in, as in our, in our method.

3 JUDGE NAPPI: Now, Harding says you keep that as record to, to
4 deal with your suppliers that may have sent you --

5 MR. KOLOMAYETS: Pardon me.

6 JUDGE NAPPI: Harding teaches that you keep all of that
7 information as a record to deal with disputes with your suppliers.

8 MR. KOLOMAYETS: Right.

9 JUDGE NAPPI: But, that doesn't mean that it's not done while the
10 things moving along. That's all I'm getting at is I'm just wondering why
11 you're saying it's necessarily stationary.

12 MR. KOLOMAYETS: Well, because --

13 JUDGE NAPPI: Different, different positions, you can have cameras
14 in four different positions watching something that's moving, and they'll
15 have four different

16 -- what's the word used? -- aspects or perspectives of the same product, but
17 that doesn't necessarily mean that the object is stationary. That's why I was
18 wondering is there anyplace --

19 MR. KOLOMAYETS: Right.

20 JUDGE NAPPI: -- in there that actually says that it's looking
21 stationary object, you know.

22 MR. KOLOMAYETS: Um-hum.

23 JUDGE NAPPI: You, you can have different perspectives of a
24 moving object.

25 MR. KOLOMAYETS: Right. Again, I, I believe it's to us at least
26 it's implied that Harding is dealing with a, a stationary system because of,

1 because he is required to take pictures from different perspectives and
2 analyze them. If he is, if he is shining a grid on something that is moving,
3 but then aiming the camera at the same place where, where that is, that, that
4 grid has been projected, he's got to be synchronized, and he doesn't suggest
5 that he is.

6 So, the implication at least is that Harding is, is talking about a
7 stationary system. If it were otherwise, he would -- his, his -- the area that
8 had been that the grid had been projected upon will have already moved
9 while he's taking his picture from his variety camera. He'd have to do that.
10 He'd have to synchronize that with each and every one of his camera-and-
11 detectors combinations, which he certainly does not suggest in his
12 specification.

13 So, it's our understanding that Harding was talking about a stationary
14 system and not a moving type dynamic system as, as we've got in our, in our
15 method. And, and, and as Your Honors pointed out, he, he collects this
16 information and he uses it not to make any sort of adjustment in real time as
17 the, as the piece is moving down an assembly line. He uses it as primarily
18 for record keeping. Ours is much different than that. We have a reference,
19 we have reference information built into the computer and that image that is
20 being generated and viewed is being relayed to the computer, and --

21 JUDGE HAIRSTON: Your reference is to the Dependent Claim,
22 right? It's not in your Independent Claim?

23 MR. KOLOMAYETS: That's right, it is in the Dependent Claim,
24 that's correct; and, that information that is used by the computer to make the
25 necessary, necessary adjustments to the, to the drive train. Again, all of this
26 happens in real time. And again, our point about Harding was that he

1 doesn't disclose that type of synchronization of detector to camera that
2 would suggest to us that he is capable of operating in a, in a, in a moving
3 system. And, we think that one of ordinary skill in the art would look at
4 Harding, would recognize that and would see that inapplicability of a system
5 such as that to the more dynamic hot moving metal strip system that we have
6 claimed in our application.

7 Finally, Harding is talking about surfaces that are reflective. He is, he
8 is placing an image onto a grid pattern onto a reflective surface and what's
9 being viewed there is a reflection off of that surface. So, by definition his
10 surface is reflective. That's much different than say, for example, the
11 subject matter of Claim 8 where we're talking about a hot metal strip. When
12 that metal strip comes out of the roll stands, it's coming out in a very hot red
13 orange color; looks something like this if you can see that picture. It's not
14 going to reflect anything, and there's not going to be a reflection that is
15 being measured. What we are doing is we're conveying shadows onto that
16 orange background and then viewing that. And, I think one of ordinary skill
17 with knowledge of the processing system knowing that when you're
18 working at temperatures of about 1000 degrees centigrade that strip is
19 coming out super red hot. And, it's not going to reflect. And, he wouldn't
20 then view Harding as a suitable --

21 JUDGE NAPPI: Counsel, how do you see the shadows if it's not
22 reflecting?

23 MR. KOLOMAYETS: Pardon me.

24 JUDGE NAPPI: How do you see the shadows if it's not reflecting?

25 MR. KOLOMAYETS: Well, you're seeing -- what you're seeing is
26 the shadow on the orange strip. You're not -- it's a subtle difference

1 between, between seeing something that's reflected as opposed to the dark
2 shadow lines that are created like --

3 JUDGE NAPPI: Well, if you have a shadow and a non-shadow, one
4 part is reflecting more light than the other, isn't it?

5 MR. KOLOMAYETS: Well, it's -- I think maybe the difference here
6 is between what we're, what we're actually measuring is that we're
7 measuring the dark shadow, the darker shadows that are coming through our
8 -- the light that's coming through our grid is putting a dark shadow, dark
9 shadows onto the surface of the hot, of the red, of the orange --

10 JUDGE NAPPI: Um-hum.

11 MR. KOLOMAYETS: -- surface. In Harding, he's, he's, he's also
12 projecting through a slide, but what we're then looking at is the reflection.
13 We're looking at the reflection and I'm sorry I left my mirror in the, in my
14 case. What I wanted to, to show you was that because of he's using a
15 reflective surface, positioning of that surface it really has to be stable and it
16 really has to not be moving in a, in a vertical direction; otherwise you're
17 going to lose -- you're not going to be able to see the reflection of those
18 grids if, for example, you have some movement of your reflective surface
19 either in the up and down direction or a tilt of it.

20 It's what, it's what we describe in the application as fluttering. And,
21 it's a common phenomenon in the hot metal strip processing where the strip
22 is actually rising and, and, and off of the, off of the, off of the rollers. If you
23 had that happen with a reflective surface or if you had some kind of tilt, your
24 detector may not actually pick up what is being shown from the opposite
25 end. And, that's, that's the difference between I think a reflective, the
26 reflective surface that you've got, the reflective surface that Harding talks

1 about, and the orange opaque solid surface -- well the opaque color that
2 we've got in our moving metal strip.

3 So, we're, we're -- you wouldn't actually be able to see those grid
4 lines if you had a fluttering effect of a reflective surface where you'd still be
5 able to see that with the hot orange strip in our method.

6 JUDGE HAIRSTON: Counsel, I've read your client's Declaration.
7 The trouble is his claims are not limited to red hot. A, a very hot --

8 MR. KOLOMAYETS: Well, I think --

9 JUDGE HAIRSTON: -- no temperature is recited, its just hot.

10 MR. KOLOMAYETS: It's hot, but I think the understanding is that
11 we're talking about when we're talking about something hot in this area,
12 we're talking about people would know that we're talking about something
13 that's at a very high temperature, and that it comes out looking, looking like
14 this.

15 So, the fact that Harding is dealing with reflective surfaces; we're
16 dealing with something other than that, we believe would lead one of
17 ordinary skill away from Harding, and not consider Harding as a suitable
18 piece of prior art for combination with Pirlet.

19 One last couple of last points then with respect to the Declaration,
20 Your Honor is correct, we submitted the Declaration of Dr. Muller where
21 many of the things I've said today have been set forth by, by an expert in the
22 field. It seemed to us that in the Office Action in the final rejection that the
23 Examiner had down played the importance of that Declaration that somehow
24 maybe it wasn't given the consideration that it deserves because it was given
25 by one who according to the Examiner stood to benefit from it.

1 I don't think that disqualifies the Muller Declaration. I think if in a
2 recent Federal Circuit case --

3 JUDGE HAIRSTON: That alone, we understand that. That alone
4 will fly --

5 MR. KOLOMAYETS: Yeah.

6 JUDGE HAIRSTON: -- yeah --

7 MR. KOLOMAYETS: Okay.

8 JUDGE HAIRSTON: -- you're exactly right.

9 MR. KOLOMAYETS: And then Claim 9 finally -- or pardon me,
10 Claim 11 which deals with the measuring the flatness of an end coil. I just
11 wanted to draw one distinction there, and that is that the arguments on the --
12 that I presented here today on the hot metal strip and the difficulties of
13 measuring the hot metal strip are really not applicable to that one because at
14 that point you have actually cooled your strip. It's being coiled, and so
15 we're not arguing that the, the challenges of measuring the flatness of hot
16 strip apply here; however, we will say that Pirlet does not disclose
17 measuring the flatness of an end coil. And, similarly Harding, which has
18 nothing to do with metal strips at all, does not disclose or suggest the need to
19 measure the flatness of an end coil, as we have recited in Claim 11. And so
20 our argument that the combination of Pirlet and Harding would also not
21 apply to Claim 11 and it's Dependent Claims. And if there are any questions
22 --

23 JUDGE HAIRSTON: Any other questions? Any questions. Thank
24 you.

25 MR. KOLOMAYETS: Thank you.

26 JUDGE NAPPI: Thank you.

Appeal 2008-1139
Application 10/677,880

1 (Whereupon, the proceedings concluded on April 15, 2008.)

2